REMARKS

Applicants hereby amend claims 3, 7, 8, 10, 20 and 23 to correct minor typographical errors.

Applicants acknowledge the indication in the Office Action that claims 11-18 define patentable subject matter and would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims from which they depend.

A new Office Action is respectfully requested, and reexamination and reconsideration are respectfully requested in view of the following Remarks.

REQUEST FOR NEW OFFICE ACTION

The Office Action fails to state any statutory basis for the rejection of claims 8-10.

The only mention of claims 8-10 anywhere in the Office Action is at page 4, lines 3-5, which references paragraph four of the previous Office Action. Meanwhile, paragraph four of the previous Office Action states that claims 2-23 (including claims 8-10) were rejected under 35 U.S.C. § 103 over any one of Namiki et al. U.S. Patent 4,395,139 ("Namiki"), Chevallier U.S. Patent 5,875,142 ("Chevallier"); and Misawa et al. U.S. Patent 4,465,379 ("Misawa"). However, it is unclear that claims 8-10 are still being rejected under 35 U.S.C. § 103 over any one of Namiki, Chevallier, or Misawa, because: (1) page 2, lines 2-4 of this Office Action states that the previous rejections are withdrawn; (2) Chevallier is not mentioned anywhere at all in this Office Action; and (3) claim 7, from which claims 8-10 depend, is **not** rejected under 35 U.S.C. § 103 over any one of Namiki, Chevallier, or Misawa, so it does not seem possible that claims 8-10 could be rejected under 35 U.S.C. § 103 over any one of Namiki, Chevallier, or Misawa.

Nowhere else in the Office Action is there any mention of how or why claims 8-10 are supposedly rejected.

Applicants respectfully submit that they are not required to guess as to why one

or more claims are being rejected. Instead, M.P.E.P. § 706.02(j) provides:

> "It is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply."

Accordingly, for at least these reasons, in the event that any rejection of claims 8-10 is maintained, Applicants respectfully request a new, complete, Office Action that provides a statutory basis for the rejection of claims 8-10.

35 U.S.C. §§ 102 and 103

The Office Action rejects: claim 21 under 35 U.S.C. § 102 over either Namiki et al. U.S. Patent 4,395,139 ("Namiki") or Misawa et al. U.S. Patent 4,465,379 ("Misawa"); claims 2-6, 19, 20 and 23 under 35 U.S.C. § 103 over Namiki or Misawa in view of any one of Raad, Muyshondt et al., Forehand et al., Hayama, and Southard; and claim 22 under 35 U.S.C. § 103 over Namiki or Misawa in view of "well known prior art" ("Official Notice").

Applicants respectfully traverse those rejections for at least the following reasons.

Claim 21

Among other things, the sensor of claim 21 includes a comparator circuit having: (1) a variable current node; and (2) an output node that is a first voltage at a given temperature when a current at the variable current node is less than a threshold current, and a different second voltage at the given temperature when the current at the variable current node is more than the threshold current.

Applicants respectfully submit that neither Namiki nor Misawa discloses any sensor including such a combination of features.

Misawa

The Office Action states that Misawa shows the recited comparator as

element 224 of FIG. 12.

Applicants respectively disagree.

First, the Office Action states (without citation or explanation) that the non-inverting input terminal of element 224 in FIG. 12 is a variable current node. Applicants disagree. In particular, the non-inverting terminal of element 224 in Misawa is at a fixed voltage corresponding to the reference voltage established by the resistor divider 230, 231 as anyone of skill in the art would easily recognize. And since the non-inverting terminal of element 224 has a fixed impedance, the current is also fixed. In that regard, Applicants draw the Examiner's attention to col. 9, lines 45-48, and Misawa's description of the identical circuit, shown in FIG. 17, at col. 10, line 66 – col. 11, line 53, particularly col. 11, lines 11-18.

Furthermore, the comparator circuit of claim 21 includes an output node that is a first voltage at a given temperature when a current at the variable current node is less than a threshold current, and a different second voltage at the given temperature when the current at the variable current node is more than the threshold current.

The Office Action states that such features are "inherent" in the operation of Misawa.

Applicants respectfully disagree. At the outset, M.P.E.P. 22123 provides:

> EXAMINER MUST PROVIDE RATIONALE OR EVIDENCE TENDING TO SHOW INHERENCY - The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); In re Oelrich, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing

described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted) (The claims were drawn to a disposable diaper having three fastening elements. The reference disclosed two fastening elements that could perform the same function as the three fastening elements in the claims. The court construed the claims to require three separate elements and held that the reference did not disclose a separate third fastening element, either expressly or inherently.). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

Here, the Office Action does not provide any rationale or evidence tending to show inherency. In particular, the Office Action fails to "provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art."

Indeed, Applicants respectfully submit that not only are the recited features not "inherent" in element 224 of Misawa, they are not even present according to the operation as explained by Misawa in the text cited above.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 21 is patentable over Misawa.

Namiki

First, the Office Action states (without citation or explanation) that the non-inverting input terminal of 12 of FIG. 4 of Namiki is a variable current node.

Applicants respectfully disagree.

For example, in the embodiment of FIG. 3, the current I1 through the variable resistor circuit 160 is variable because the voltage VC must be the same as the voltage VA due to the effect of the matched transistor pairs MN2/MP2 and MN3/MP3. Meanwhile, the voltage VA decreases with increasing temperature, due to the characteristics of the diode D2. Accordingly, the current at node "C" varies. In contrast, Applicants respectfully note that the switches 18_1 through 18_n in Namiki are closed sequentially, one at a time, to sample voltages across the serially connected resistors 19_1 through 19_n. So the current through the serially connected resistors 19_1 through 19_n remains unchanged and does not vary.

Therefore, Applicants respectfully submit that comparator 12 of FIG. 4 of Namiki does not have a variable current node.

Claim 1

Among other things, the sensor of claim 1 includes a switching circuit which selectively **bypasses** individual ones of the n resistors.

The Office Action does not mention this feature.

Applicants respectfully submit that neither Misawa nor Namiki discloses a sensor that includes a switching circuit which selectively bypasses individual ones of the n resistors.

Misawa teaches that the switches T_1 through T_N are transfer gates that are closed "one-by-one" to step-wise vary the voltage applied to the non-inverting terminal of the comparator 226 (see col. 9, lines 28-37). They do not "bypass" any of the resistors R_1 through R_{N-1}. Similarly, Namiki teaches that switches 18_1 through 18_n are closed one at a time to step-wise vary the voltage provided to the non-inverting terminal of the op-amp 12 (see col. 3, lines 32-50).

Therefore, neither Misawa nor Namiki discloses a sensor with this feature. None of the secondary references of Raad, Muyshondt et al., Forehand et al., Hayama, or Southard cure these deficiencies. So now possible combination of either Misawa or Namiki and either Raad, Muyshondt et al., Forehand et al., Hayama, or Southard

could produce the sensor of claim 1.

Also among other things, the sensor of claim 1 includes a comparator circuit having: (1) a variable current node; and (2) an output node that is a first voltage at a given temperature when a current at the variable current node is less than a threshold current, and a different second voltage at the given temperature when the current at the variable current node is more than the threshold current.

As explained above with respect to claim 21, neither Misawa nor Namiki discloses a sensor with such a combination of features. None of the secondary references of Raad, Muyshondt et al., Forehand et al., Hayama, or Southard cure these deficiencies. So no possible combination of either Misawa or Namiki and either Raad, Muyshondt et al., Forehand et al., Hayama, or Southard could produce the sensor of claim 1.

Furthermore, among other things, in the sensor of claim 1, the n resistors have different resistance values.

The Office Action states (without any citation) that such a feature is shown in the secondary references Raad, Muyshondt et al., Forehand et al., Hayama, or Southard and further states (also without any citation) that it would have been obvious to modify Misawa nor Namiki to include such a feature in order to provide a greater voltage change using the same number of resistor elements.

Applicants respectfully disagree.

There is no suggestion in either Misawa or Namiki that there is any reason or desire to "provide a greater voltage change using the same number of resistor elements," and indeed, such a modification would appear to be contrary to the teachings of Misawa and Namiki. For example, in the circuit configuration of Namiki with the switches 18_1 through 18_n if the resistors all had different values, the step wise progression through a range of voltage to be applied to the Op Amp 12 would not be possible. The same is true for the resistors R_1 through R_{N-1} of Misawa.

Therefore, Applicants respectfully traverse the proposed modifications of Misawa and Namiki with Raad, Muyshondt et al., Forehand et al., Hayama, or

Southard as improper as such a modification would change the fundamental principal of operation of Misawa and Namiki (see M.P.E.P. § 2143.01).

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over any proper combination of the cited prior art.

Claims 2-6

Claims 2-6 depend from claim 1 and are deemed patentable for at least the reasons set forth above with respect to claim 1.

Furthermore, Applicants reiterate their comments made in their Response to the previous Office Action.

Specifically, the so-called "Official Notice" taken by the Examiner is not understood in the context of the rejection (which claim or claim is being rejected on this basis?), and accordingly, the Office Notice is again traversed to the extent that the Examiner contends the combinations defined by the present claims are obvious.

Third, also contrary to well-settled Patent Office guidelines, the Examiner fails to address the motivation of one skilled in the art to modify the cited references.

Respectfully, the burden in rejecting claims over the prior art lies with the Patent Office. In this case, the Examiner has not established a *prima facie* case of obviousness. See, for example, the following passage appearing in M.P.E.P. 2144.03.

> It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. Zurko, 258 F.3d at 1385, 59 USPQ2d at 1697 ("[T]he Board cannot simply reach conclusions based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings."

The record is completely devoid of any evidentiary support for the Examiner

unsubstantiated statement that claims 2-6 would have been obvious to one of ordinary skill in the art. If the examiner has prior art support for his Official Notice, Applicants respectfully request

Meanwhile, M.P.E.P. § 2144.03 provides that:

> If Applicant Challenges a Factual Assertion as Not Properly Officially Noticed or not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding With Adequate Evidence.

Here, the Examiner has not provided any such evidence. Finally, M.P.E.P. § 2144.03 also provides that:

> If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2).

Accordingly, to the extent that the Examiner is basing the Official Notice on personal knowledge, Applicants request as affidavit under 37 CFR § 1.104(d)(2).

Accordingly, for at least these reasons, Applicants respectfully request that the rejections of claims 2-6 be withdrawn.

Claim 7

Claim 1 includes the various features discussed above with respect to claim 1 and is deemed patentable over the cited prior art for at least the reasons set forth above with respect to claim 1.

Claims 19 and 20

Claims 19 and 20 depend from claim 7 and are deemed patentable for at least the reasons set forth above with respect to claim 1.

First, contrary to well-established Patent Office guidelines, the Examiner has

not specifically addressed all the features of claims 19-20. Indeed, the Examiner has failed to provide any explanation as to why or how claims 19-20 are supposedly rejected over either Misawa or Namiki in view of Raad, Muyshondt et al., Forehand et al., Hayama, or Southard.

Applicants respectfully decline to guess where the Examiner might believe that the various features of claims 19 and 20 (e.g., the P fuses connected across the p resistors) are supposed to be found in these many references, and why it would supposedly have been obvious to have modified Misawa or Namiki include such features (indeed, Applicants respectfully submit that such fuses would never be proper in either Misawa or Namiki). Instead, Applicants respectfully traverse the rejection and note that the burden in rejecting claims over the prior art lies with the Patent Office, and it is not the Applicants' responsibility to knock down straw horses or "prove" the patentability of their claims.

Accordingly, for at least these reasons, Applicants respectfully request that the rejections of claims 19-20 be withdrawn.

Claim 22

Claim 22 depends from claim 21 and is deemed patentable for at least the reasons set forth above with respect to claim 21.

Furthermore, Applicants respectfully traverse the Official Notice and request evidentiary support under M.P.E.P. § 2144.03 and/or an affidavit under 37 CFR § 1.104(d)(2).

Furthermore, Applicants traverse the proposed modification of Misawa and Namiki as improper, as any such modification would change the fundamental principal of operation of Misawa and Namiki (see M.P.E.P. § 2143.01). Both Misawa and Namiki teach that in operation to sense a temperature, the switches T_1 through T_N and the switches 18_1 through 18_n, respectively, are individually closed one by one to change a reference voltage that is to be compared against a temperature-varying-voltage in order to measure a temperature. How is this supposed to be accomplished if the switches are replaced by fuses? Neither Misawa and Namiki could operate

properly if the switches were replaced by fuses.

Accordingly, for at least these additional reasons, Applicants respectfully submit that claim 22 is patentable over the cited prior art.

CONCLUSION

In view of the foregoing explanations, Applicants respectfully request that the Examiner reconsider and reexamine the present application, allow claims 1-23, and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283-0720 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,
VOLENTINE FRANCOS & WHITT, P.L.L.C.

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By: _____
Kenneth D. Springer
Registration No. 39,843

VOLENTINE FRANCOS & WHITT, P.L.L.C.
One Freedom Square
Suite 1260
11951 Freedom Drive
Reston, Virginia 20190
Telephone No.: (571) 283-0720
Facsimile No.: (571) 283-0740